2 - 4 % w/w of carbon black.

Cancel claims 2, 3 and 5.

Please add new claims 14 and 15 as follows:

14. A magneto-resistive CrO_2 polymer composite film as claimed in claim 1 when present in an audio or video tape, a magnetic read head, a magnetic field probe or a current voltage sensor in an electrical device.

G8

15. A magnetic read head, a magnetic field probe or a current voltage sensor in an electrical device which includes a magneto-resistive composite comprising :

88% - 93% w/w of low density polyethylene;

5 - 8% w/w of CrO_2; and

2 - 4 % w/w of carbon black.

Please replace Figure 2 of the drawing with the revised figure enclosed herewith.

REMARKS

Attached hereto is an appendix showing the amendments made to the claims noted above as having been amended.

So far as the drawing is concerned, a photocopy of the original drawing which formally complies with the official action is enclosed. However, the original of the photomicrograph is present in the PTO files stapled to a sheet of paper. If a better reproduction is required, the PTO is requested to return the original to us to permit preparation of a better copy.

The specification has been amended to meet the Examiner's objections.

The nature of the materials used in the claimed products has been made more precise. In doing this, the subject matter of claims 2 and 3, against which no rejection was made under 35 USC 103, has been incorporated into claim 1 so that it is submitted that the claims should now be acceptable. It is noted that the Proskow reference makes no mention of the use of carbon black which is now an essential requirement of claim 1. Nor does it utilize polyethylene as its

polymer. The product of the present invention are therefore clearly distinguished from this reference.

New claims 14 and 15 are directed to the specific articles that were indicated as usefully incorporating the product claimed in original claim 1.

It is therefore submitted that the application is now in order for allowance and an early action this end is respectfully submitted.

Respectfully submitted,

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Appendix showing amendments made:

The paragraph starting at page 1 line 2:

The subject invention relates to a magneto-resistive CrO_2 polymer composite blend for use in magnetic storage devices, such as in audio and video tapes, [~~as~~] magnetic read heads, magnetic field probes, or current voltage sensors in electrical devices and the process for preparation of the same to provide a matrix for conducting and magnetic fillers to form a blend which in turn shows the desired magneto-resistive property.

The paragraph starting at page 2 line 1:

K. Chanhara et al., Applied Physics Letters, Vol 63 (14), at 1990; R Von Helmholt et al., Physical Review Letters Vol. 71 (14) at 2331; and U.S. Patents Nos 5,549,977 and 5,538,800 teach that desirable MR has been observed in mixed metal oxides, e.g. La-Ca-Mn-O, La-Ba-Mn-O and La-Sr-Mn-O. The magnetoresistance of La-Sr-Mn-O perovskites, appears to be better in polycrystalline samples, as opposed to single crystals, possibly due to **spin-polarized** [~~spin-polarized~~] tunneling of electrons between grains.

The paragraph starting at page 3 line 10:

Electrically conducting polymer composite materials exhibiting positive temperature **coefficient** [~~co-efficient~~] of resistance effect have been in use in resistance switching devices for many years. These materials are characterized by a switch temperature at which the material resistivity changes by orders of magnitiude. The most studied polymer composite system which exhibits this effect consists of polyethylene loaded with carbon black. At temperatures below 130°C, i.e. below the melting point of polyethylene there is an anomalous resistance which raises by orders of magnitude. This increase in resistance is believed to be due to the increased **carbon** [~~Carbon~~] black particle separation which forms a **discontinuous** [~~dis-continuous~~] polyethylene phase expansion. Upon meting, conducting polymer composite materials have been realized in co-polymer blends too, such as polyethylene-polystyrene copolymers wherein conducting fillers such as carbon black can bring about electrical percolation at doping levels below 3 wt%. As a result,

a co-polymer hich otherwise shows a resistance of the order of **MOhms**, [~~M Ohms~~] shows below 1000Ohms when doped with condcting filler such as carbon black. This aspect in particular is used in sensor technology.

The paragraph starting on page 4 line 27:

Accordingly the present invention relates to a magneto-resistive CrO_2 polymer composite blend **that can be made into a film or artefact** for use in magnetic storage devices such as [~~in the~~] audio and video tapes [~~as~~] , magnetic read heads, magnetic field probes or current voltage sensors in electrical devices, comprising :

88% - 93% w/w of [~~polymer preferably Low Density Poly Ethylene~~] low density polyethylene;

5 - 8% w/w of [~~magnetic filler preferably~~] CrO_2; and

2 - 4 % w/w of [~~an additive~~] **carbon black**.

1. (Amended) A magneto-resistive CrO_2 polymer composite **film** [~~blend~~] for use in magnetic storage devices [such as in audio and video tapes as magnetic read heads, magnetic field probes or current voltage sensors in electrical devices] comprising :

88% - 93% w/w of low density polyethylene;

5 - 8% w/w of CrO3; and

2 - 4 % w/w carbon black.

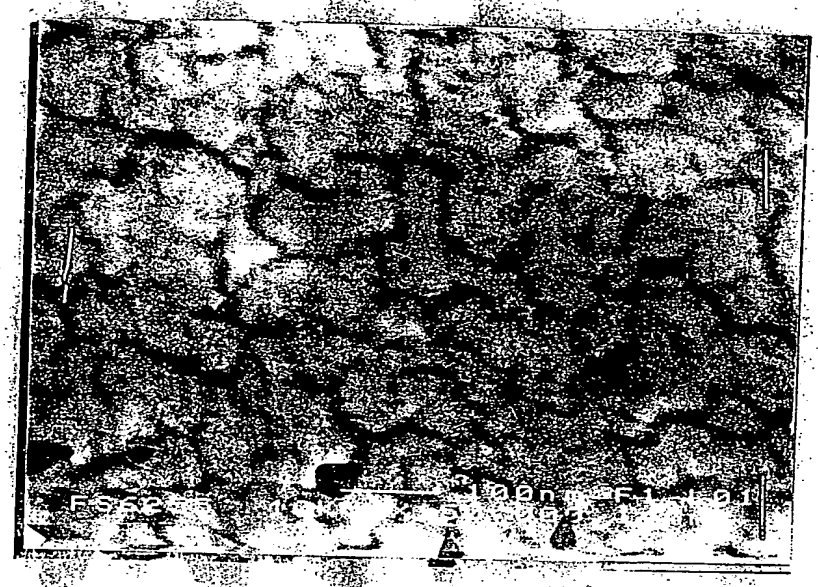

FIG. 2